

AMENDMENTS TO THE SPECIFICATION

Please replace the first paragraph of the CROSS-REFERENCE TO RELATED APPLICATIONS, on page 1 of the application as filed, with the following:

-- ~~This specification~~ This application claims priority to U.S. Patent application Serial No. 09/954,486, entitled "Printed Wiring Boards and Methods of Making Them", filed on September 17, 2001, which is a continuation-in-part of (1) U.S. Ser. No. 09/527,706, filed March 17, 2000, now pending, which is a continuation-in-part of (2) U.S. Serial No. 08/975,613, filed November 21, 1997, now U.S. Patent No. 6,171,468, which is a continuation-in-part of (3) U.S. Serial No. 08/471,871, filed June 7, 1995, now U.S. Patent No. 5,690,805, which is a continuation-in-part of (4) U.S. Serial No. 08/340,849, filed November 16, 1994, now abandoned, which is a continuation-in-part of (5) U.S. Serial No. 08/232,574, filed May 3, 1994, now U.S. Patent No. 5,476,580, which in turn is a continuation-in-part of (6) U.S. Serial No. 08/062,943, filed May 17, 1993, now U.S. Patent No. 5,389,270. Other related applications are U.S. Serial No. 08/477,452, filed June 7, 1995, now abandoned, and U.S. Serial No. 08/486,331, filed June 7, 1995, now U.S. Patent No. 5,725,807. The entire specification and all the claims of each prior patent application and patent referred to above are hereby incorporated by reference to provide continuity of disclosure.--

Also on page 5, prior to the heading "DETAILED DESCRIPTION OF THE INVENTION", please insert the following:

--BRIEF DESCRIPTION OF THE DRAWING--

--FIG. 1 is a diagrammatic cross-sectional view of a printed wiring board of the present invention after electroplating.--

Delete Par. 84 on pages 23-24 and insert the following new Par. 84:

-- ~~The present invention allows the manufacture of printed wiring boards having conductive recesses. Such boards are made by applying any of the compositions described above to a printed wiring board, optionally having one or more recesses, in accordance with any of the methods described above. The printed wiring board may have more than one conductive coating, but preferably has a single coating provided by a one-pass coating process, which provides the recesses with adequate conductivity for electroplating. This printed wiring board is then electroplated to provide a printed wiring board having copper clad recesses.~~

The present invention allows the manufacture of printed wiring boards having conductive recesses. Such boards are made by applying any of the compositions described above to a printed wiring board, optionally having one or more recesses, in accordance with any of the methods described above. A printed wiring board in accordance with the present invention is shown in FIG. 1. The printed wiring board, shown generally at 10, includes at least two conductive circuit layers 12a and 12b separated by nonconductive material 14. At least one recess 16 in the nonconductive material has a nonconductive surface 18 intersecting at least two of the conductive circuit layers 12a and 12b. The printed wiring board 10 may have more than one conductive coating, but preferably has a single coating 20 provided by a one-pass coating process, which provides the recesses 16 with adequate conductivity for electroplating. This coating includes electrically conductive carbon having a mean particle size not greater than about 1 micron and a water dispersible organic binding agent. The printed wiring board is then electroplated to form a copper layer 22 over the conductive coating 20 to thereby provide a printed wiring board having copper clad recesses. In the embodiment shown in FIG. 1, the printed wiring board is further coated with solder, forming a soldered continuous metal layer 24.--